DRAN-VIEW™

Version 2.0

OPERATOR'S MANUAL

AC POWER ANALYSIS SOFTWARE
For

Power Platform® PPI with PQPlus TASKCard
Power Platform PP4300 with PQLite TASKCard
DRAN-LOGGER™ DL1, DL1-T

June 2, 1996

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Chapter 1 - Introduction

This manual contains information related to the contents, installation, and operation of the DRAN-VIEW software package version 2.0.

DRAN-VIEW is the PC viewing tool for the following Dranetz power quality/power analyzers:

* PPI TASKCard™ PQPLUS

* PP4300 TASKCard™ PQLite.

* DRAN-LOGGER DL1, DL1-T

Note: This release of the DRAN-VIEW application may not support all of the analysis instruments mentioned above. To find out about the instrument(s) supported by this release, use the **Help-About** command from the main menu.

DRAN-VIEW is a Windows 3.1/Windows 95 compatible program that is used to access and retrieve data from data files on memory card (requires PCMCIA memory card reader) or from other disk media compatible with MS-Windows operating system.

Features and Highlights

- Windows 3.1 and Windows 95 compatible
- Direct interface with DRAN-LINK communications software
- two-pane browser (time plots and Waveforms simultaneously)
- Multiple ZOOM levels (up to 15 times)
- Harmonic analysis (FFT)
- Toolbar and Button support
- Drop-down Events list
- Multi-parameter time plots
- Time measurement tool (delta measurement)
- Saves data to .DNV format or convert to ASCII
- Status bar "meters" display time, dat and selected pane parameters
- Accelerator keys and right mouse button support
- Cut and paste to other applications.

Chapter 2 - Getting Started

2.1 Requirements

Operating system :	MS-Windows, version 3.1, 3.11 or '95
Processor :	386 or higher
Memory requirements :	8Mb or more.
Disk requirements:	1.5 MB for installation 7 MB free disk for file conversions (importing TASKCARD data files)

2.2 Installing DRAN-VIEW

NOTE - The DRAN-VIEW software installation process requires two (2) diskettes: the DRAN-VIEW installation diskette and an instrument driver diskette. An instrument driver is required for each different analyzer, e.g., the PP1 driver is required to use DRAN-VIEW with the PP1 analyzer.

Follow these steps to install DRAN-VIEW from Windows 3.xx

Insert the DRAN-VIEW install diskette in the a: (or b:) drive
Select Run from the File menu in the Program manager.

In the edit box, type **a:\setup** (or b:\setup) and click OK

Follow the on-screen instructions -- insert the DRAN-VIEW driver diskette when requested

Follow these steps to install DRAN-VIEW from Windows 95

Insert the DRAN-VIEW install diskette in the a: (or b:) drive
Click the start button and select RUN.

Type **a:\setup** (or b:\setup) and press ENTER

Follow the on-screen instructions -- insert the DRAN-VIEW driver diskette when requested

or

Insert the DRAN-VIEW install diskette in the a: (or b:) drive
Click the Start button and run Explorer

Select drive a: (or b:) and double-click on the SETUP.EXE file

Follow the on-screen instructions -- insert the DRAN-VIEW driver diskette when requested

or

Insert the DRAN-VIEW install diskette in the a: (or b:) drive
Click the Add/Remove icon in the Control Panel and follow the on-screen instructions -- insert the DRAN-VIEW driver diskette when requested

(NOTE - DRAN-VIEW does NOT support long filenames)

Once the DRAN-VIEW installation is completed, the DRAN-VIEW icon will be added to the existing Dranetz Power Suite program group (if one doesn't already exist, a new group will be created). Double-click the DRAN-VIEW icon at any time to start the DRAN-VIEW application.

When the application has started the menu is limited to three options, File, View and Help.

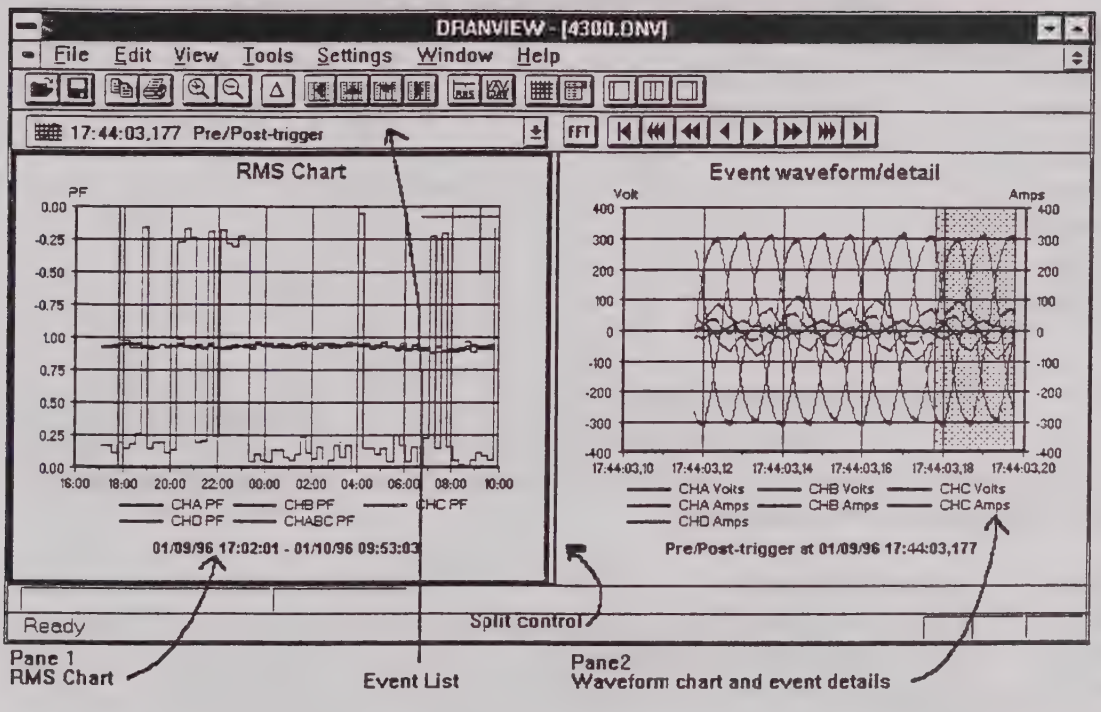
Select the File/Open option to proceed.

DRAG AND DROP
DRAN-VIEW supports DRAG and DROP. So if you drag a .DNV-file from the File manager or Explorer and drop it over either the started DRAN-VIEW application or the DRAN-VIEW icon, DRAN-VIEW starts with the document loaded.

AUTOMATIC SHELL REGISTER
DRAN-VIEW associates the .DNV file extension to the DRAN-VIEW application automatically. This means that if you double-click a .DNV document, DRAN-VIEW will start with that document loaded.

Chapter 3 - General Concepts

3.1 The Main Screen



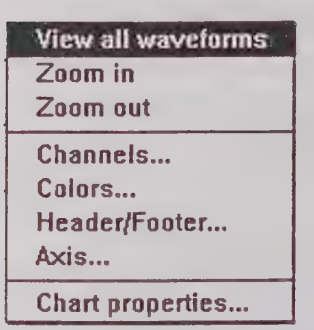
To fully understand how to operate this program it is important to know how the items on the screen are tied together, and how one can manipulate them. The document view (window) is divided into two panes (except for DRAN-LOGGER files which do not have the waveform pane). These panes are divided by the split control (a vertical line between the panes). The position of the split control can be changed, either by clicking and dragging the split control to the left or right with the mouse, or by selecting one of the three split functions in the toolbar.

The left pane shows the RMS chart, and the right shows waveform or event details (in text) if available. Only one event can be active (selected) at a in a document. To select a particular event, pull down the event list (located in the toolbar). If you want to step back and forth, it is a good idea to use the toolbar buttons. Another way is to click directly into one of the charts. As you hold the mouse button down, the cursor is shown as a vertical line. Position the vertical line at the desired timestamp and release the mouse button. In this case, the selected event will be the closest waveform that matches the timestamp.

The currently selected event is always marked in the charts with a vertical line, or if zoomed, shown as a rectangle with shaded background.

3.2 The Right Mouse Button

To quickly access important settings, the program activates a popup menu when you point at a chart and click the right mouse button.



3.3 The Accelerator Keys

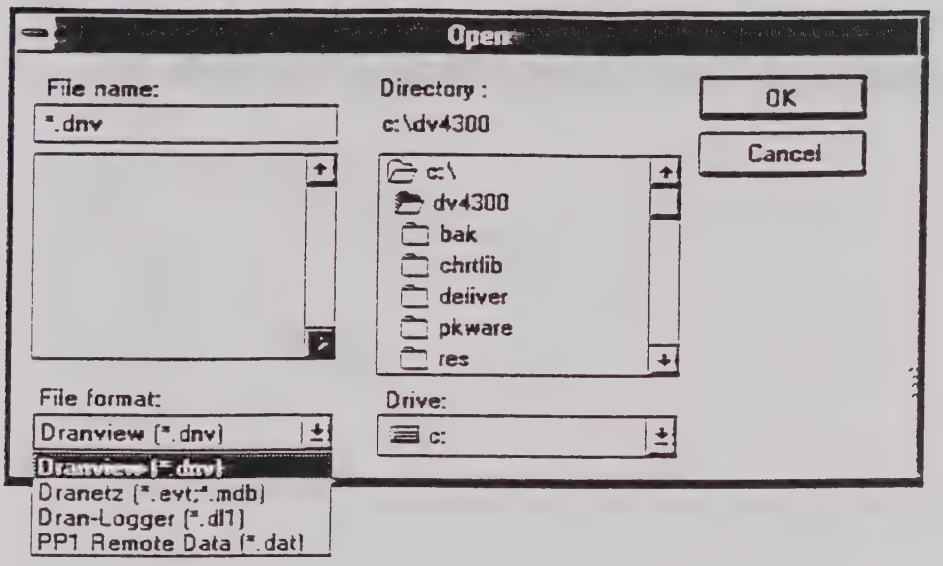
If you are not using a mouse or if you like to use the keyboard, the program supports the following accelerator (shortcut) keys.

Ctrl+C	Copy to clipboard
Ctrl+D	Show data in table list
Ctrl+E	Put split control in the middle (*)
Ctrl+F	Toggle FFT on/off (*)
Ctrl+I	Zoom in
Ctrl+M	Toggle delta measurements on/off
Ctrl+O	Open file
Ctrl+P	Print
Ctrl+R	Put splitter to the right (*)
Ctrl+S	Save file
Ctrl+U	Zoom out
F1	Help
Shift-F1	Context help
F3	First event
F4	Previous waveform group (*)
F5	Previous waveform event (*)
F6	Previous event
F7	Next event
F8	Next waveform event (*)
F9	Next waveform group (*)
F10	Last event
Left, Right, Up, Down	Moves the cursor.

(*) = Not supported by DRAN-LOGGER databases.

Chapter 4 The File menu

4.1 Open



DRAN-VIEW can import the following file formats:

- PQLite TASKCARD files with the extension .MDB or .EVT.
- PQPlus TASKCARD files with the extension .MDB or .EVT.
- PQPlus TASKCARD remote files, downloaded by serial link or modem with the extension .DAT.
- DRAN-LOGGER DL1 files with the extension .DL1.

Select one of your files and press OK to start the conversion process.

If you want to store the file, it will be given the extension .DNV. This is the document file format of DRAN-VIEW. .DNV files occupy less space on the disk and also load faster than .MDB and .EVT files. The .DNV file format is not compatible with any program other than DRAN-VIEW.

.DNV files contain information about the actual chart settings in use and when the file was saved. When the file is loaded it will appear exactly as it was when you saved it.

Toolbar button :

4.2 Close

Closes the currently active document. If changes have been made, you will be prompted to save it first.

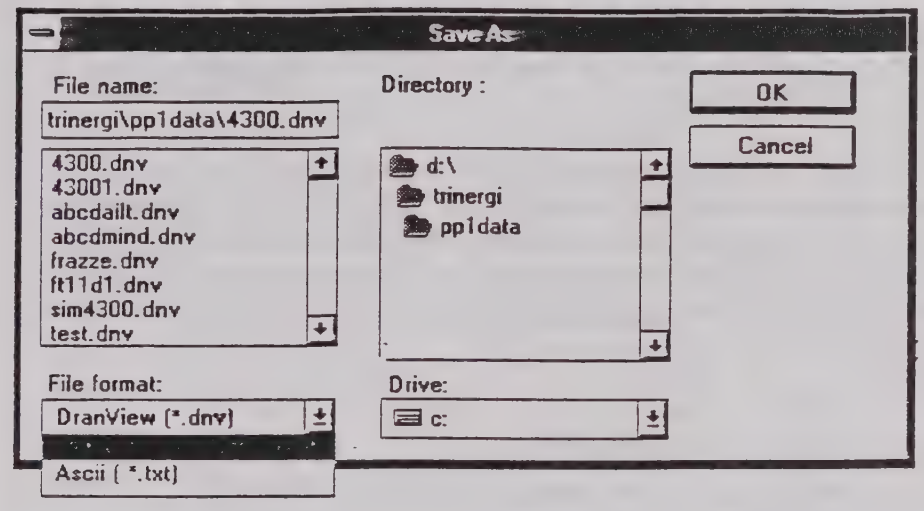
4.3 Save

Saves the currently active document. If it is not a .DNV file, the Save As dialog will appear.

Toolbar button :

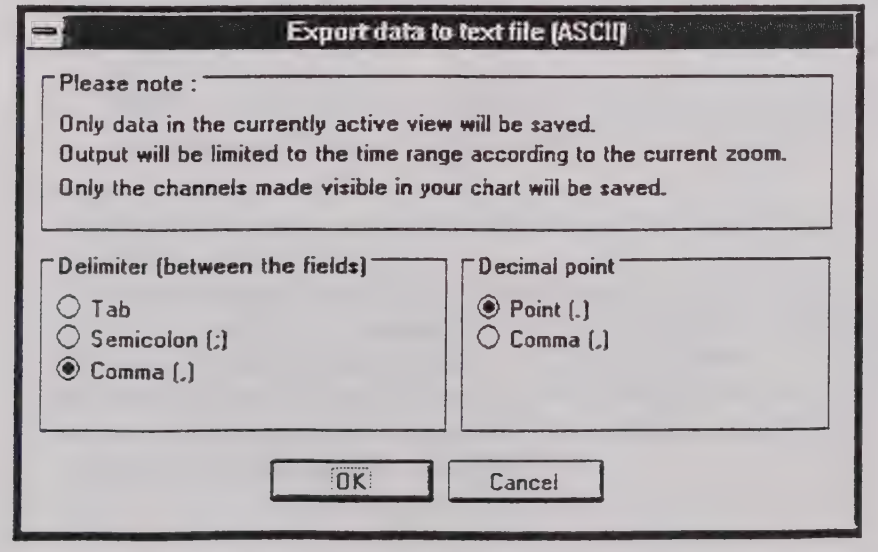
4.4 Save As

You can use this dialog to give your document another name or to export data to an ASCII-file.



ASCII format

The data available in the current chart can be exported to an ASCII format file (plain text). Later, this file can be loaded into Microsoft EXCEL or some other spreadsheet application. After you click the OK button, the following dialog will be shown to customize the data.


Export data to text file (ASCII)
Please note :
Only data in the currently active view will be saved.
Output will be limited to the time range according to the current zoom.
Only the channels made visible in your chart will be saved.
Delimiter (between the fields)
Tab
Semicolon (;)
Comma (,)
Decimal point
Point (.)
Comma (,)
OK
Cancel

4.5 Print

The currently selected chart will be printed.

Toolbar button :

4.6 Print Preview

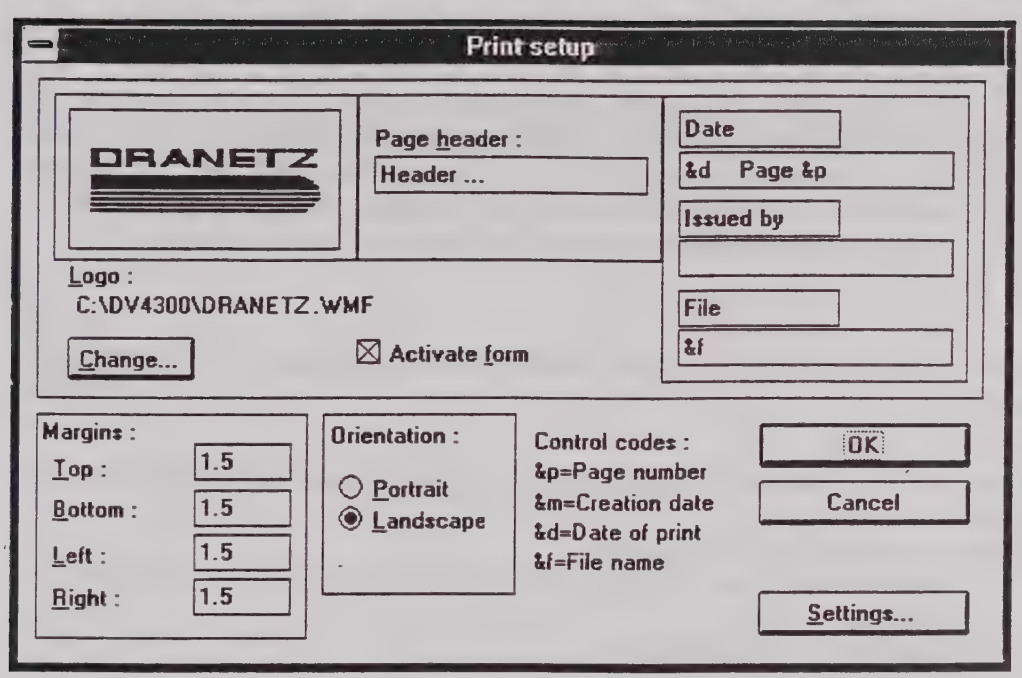
Use this command to display the active document as it would appear when printed. When you choose this command, the main window will be replaced with a print preview window in which one or two pages will be displayed in their printed format. The **print preview toolbar** offers you options to view either one or two pages at a time; move back and forth through the document; zoom in and out of pages; and initiate a print job.

Print Preview toolbar

The print preview toolbar offers you the following options:

Print	Bring up the print dialog box, to start a print job.
Next Page	Preview the next printed page.
Prev Page	Preview the previous printed page.
One Page/Two Page	Preview one or two printed pages at a time.
Zoom In	Take a closer look at the printed page.
Zoom Out	Take a larger look at the printed page.
Close	Return from print preview to the editing window.

4.7 Print Setup



This dialog box controls the appearance of the prints.

Activate form

If this control is checked, the print will have a form where you can use your picture on top of every page. DRAN-VIEW supports the following graphic formats:

- **.BMP and .DIB -** Windows device independent bitmap, used by Windows Paintbrush.
- **.WMF -** Windows Metafile picture (*.WMF) on top of every page. A .WMF file can be created by vector oriented drawing tools like CorelDraw.

Change...

This button opens a dialog so you can select another picture file.

Regarding .BMP/.DIB files:

Use appropriately sized bitmaps. Very large bitmaps take time to print. On the other hand, you must have reasonable resolution to make the picture look good when printed in high resolution printers. The bitmap is stretched horizontally to fill the rectangular area of the print header. The aspect ratio (height/width) in use is according to the stored bitmap. So if the bitmap is exceptionally high, it could be printed partially below the rectangle.

Regarding .WMF files:
The program supports both normal .WMF files as well as placeable .WMF files.

A tip : If the picture is extended too much in either direction (the aspect of the picture gets distorted) you should use a drawing program to draw a white or invisible rectangle object around the picture with approximately the same aspect as the box in the placeholder for the picture in the form. When DRAN-VIEW puts a picture into the placeholder box on top of each page, it extends the picture so it fits both in height and width. If your white rectangle fits into the box the picture aspect (width/height-factor) will not have to be rescaled. And since the rectangle is white it will not be shown at all.

Margins

The margins are in units specific to your country settings (Control Panel Setup) (inch or millimeters)

Edit fields

As you can see in the sample above you can put control codes into the text to print special data.
The following control codes are available :

&p	= Page number. The current page of the print job is shown instead of this code when printing.
&m	= Measurement/Creating date.
&f	= The current file name.
&d	= Current date (= printing date).

Orientation

Choose either Portrait or Landscape.

Settings button

The settings button opens up the Printer Setup dialog box to select the printer destination and connection.

Chapter 5 - The Edit Menu

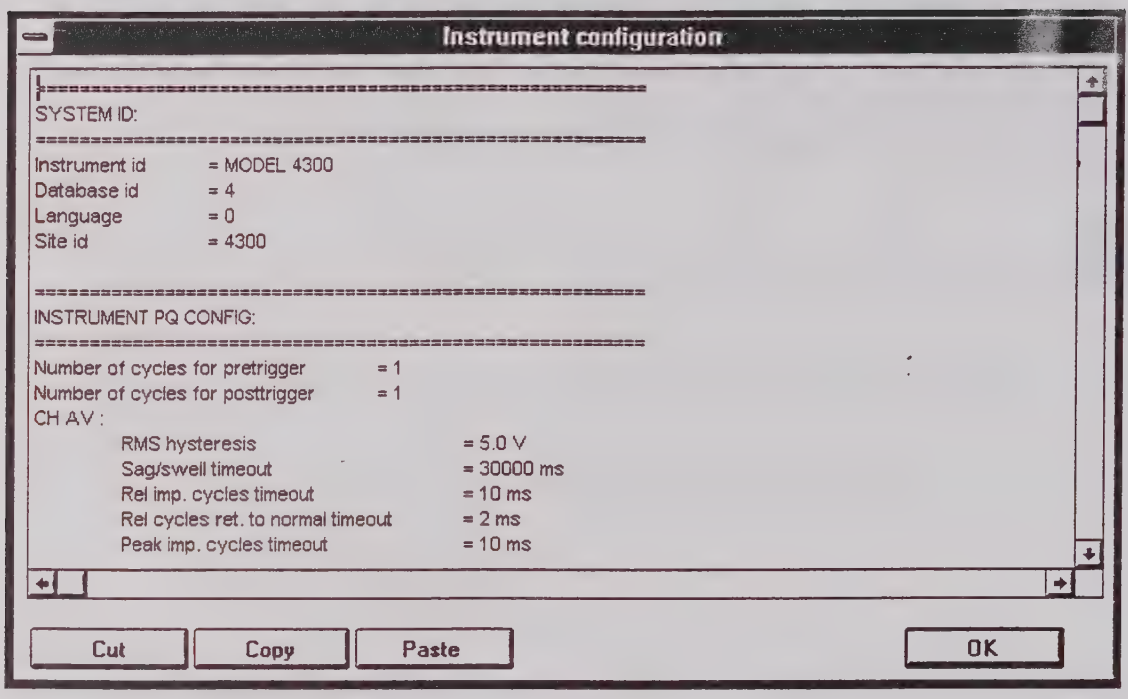
5.1 Copy

This menu option will copy the current chart (or text event) into the MS-Windows clipboard.

Toolbar button:

Chapter 6 - The View Menu

6.1 Instrument Configuration

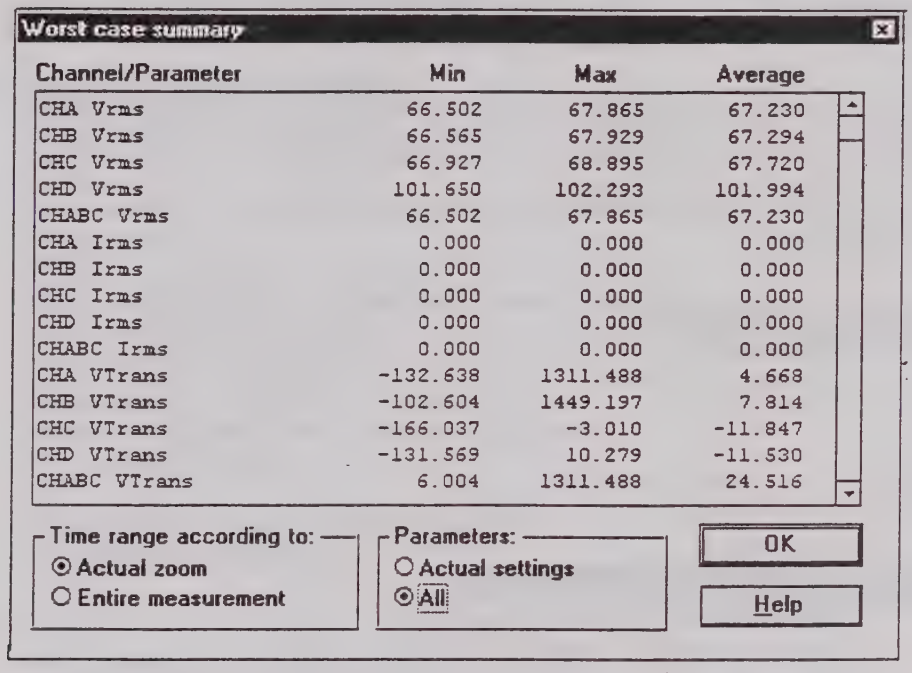

Instrument configuration
SYSTEM ID:
Instrument id = MODEL 4300
Database id = 4
Language = 0
Site id = 4300
INSTRUMENT PQ CONFIG:
Number of cycles for pretrigger = 1
Number of cycles for posttrigger = 1
CH AV :
RMS hysteresis = 5.0 V
Sag/swell timeout = 30000 ms
Rel imp. cycles timeout = 10 ms
Rel cycles ret. to normal timeout = 2 ms
Peak imp. cycles timeout = 10 ms
Cut
Copy
Paste
OK

This menu option will show information about the instrument configuration. You can export some (or all) of the text if you select it with the mouse, and then press the Copy button. The selected text will then be stored in Windows clipboard. Afterwards the text can be pasted into another application.

For PQPlus/PQLite databases the settings are according to the timestamp of the currently active event, since these databases may have information about modification of the instrument configuration embedded in the data.

6.2 Worst case summary

This menu option will show a worst case summary dialog box. with information on MIN, MAX and AVERAGE values, within the current time range or for the entire time range.



Worst case summary dialog

This dialog shows the Min,Max and Average for the parameters.

Time range according to: Actual zoom

If this option is selected then the evaluation of worst case data will only affect data within the timerange according to actual zoom in the timeplot chart.

Time range according to: Entire measurement

If this option is selected then the evaluation of worst case data will affect all available data in the entire time range.

Parameters: Actual settings

Only the parameters viewed in the timeplot chart will be shown.

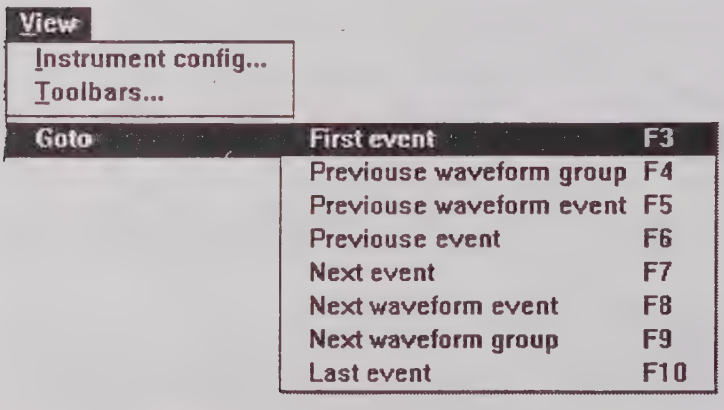
Parameters: All

All parameters will be shown.

6.3 Toolbars

You can turn toolbars and status bars on/off by using this dialog.

6.4 Goto



This menu option makes it possible to step forward and backward in the events. As you can see, the commands can also by issued by using F3-F10.

You can also use these buttons in the toolbar :

Note that they are in the same order as the function key layout.

F3 F4 F5 F6 F7 F8 F9 F10

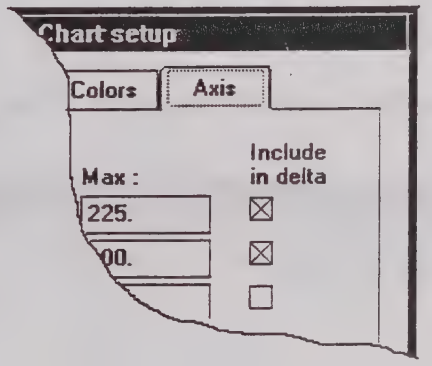
Chapter 7 - The Tools Menu

7.1 Delta Measurement

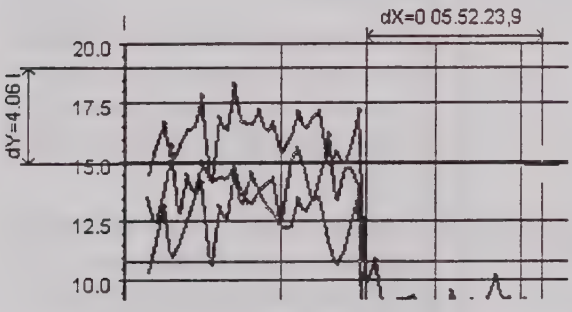
General delta functionality :
If this function is activated you can clear the position indicators in the status bar. When you move the cursor the indicators will show the distance from that point.

To set a new zero point you just click somewhere in the chart. We call this a delta measurement.

Using delta markers :
In the chart "Axis" setup, there are items called "Include in delta". If any of those are turned on you can make arrow markers visible in the chart. One for each Y-axis (or X-axis) that is activated.



If you click again, the oldest point will be overtaken by the new point.



If the chart is saved at that moment the arrow will be stored in the file. When you reload the file the arrow will appear again, until the delta function is deactivated.

When the function is deactivated (by selecting it again) the counters at the bottom of the screen will return to the global scope.

Toolbar button :

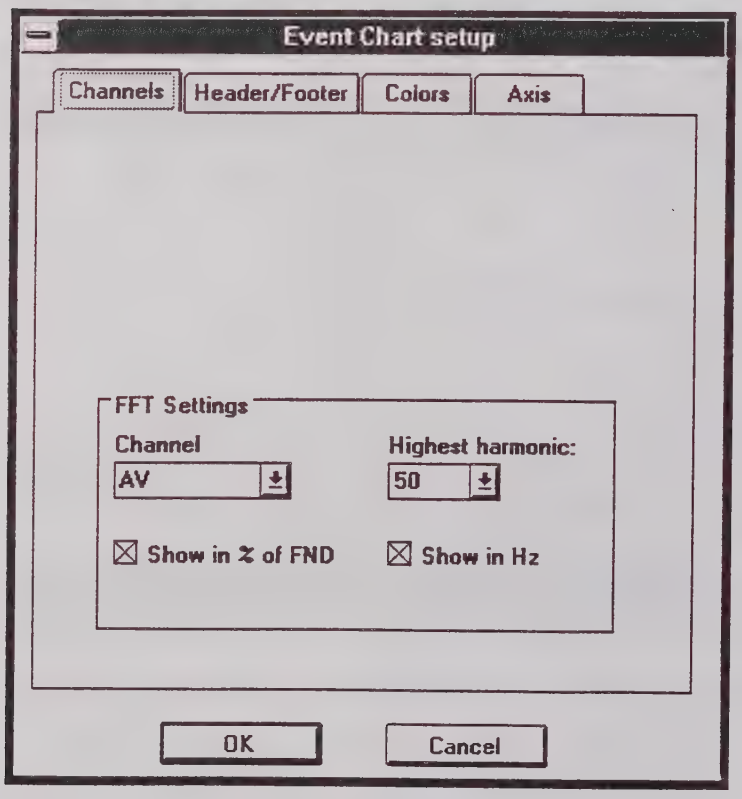
7.2 FFT

If the current event is a waveform event, and if the waveform chart has got the focus, this function will replace the waveform with a FFT chart showing a harmonic analysis of the data. This function toggles on/off.

Tip : If you want to view both waveforms and FFT charts at the same time, you can use the "Window Duplicate" command to create a new window for the document. In one of the windows you can have the FFT function OFF (waveform) and in the other you can have it ON, to display the FFT chart. When you select another event, all views will update accordingly. To place the windows appropriately you can use the "Window-Tile"-function.

To change the state of the FFT function you can use this toolbar button :

When the FFT function is active the "Channels" option in the chart setup will show the following :



The "Channel" combo box will contain the currently available channels.

The "highest harmonic" combo selects how many harmonics you want to have in your chart. The range is between 10-50 in steps of 5.

"Show in % of FND" replaces the Y-axis in real unit (Volts/Amps/kWatts) with a percentage of the FND component in the harmonic analysis. The leftmost bar in the chart shows the THD (Total harmonic distortion). This bar is also either in real unit (V,A,kW) or in % of FND.

"Show in Hz" rescales the X-axis in Hz instead of the harmonic numbers H02-H50.

7.3 Zoom In

This selection will activate the graphics zoom function. When this function is active, you just click and drag a rectangle in the chart. When you release the mouse button, the chart will be redrawn with the selected area enlarged. The depth of the zoom queue is 15. This means that you can repeatedly zoom 15 times and still be able to return to the previous zoom with the "Unzoom" function. You can also zoom using the keyboard arrow keys and ENTER.

Toolbar button :

7.4 Unzoom

This function will undo the last zoom you made.

Toolbar button :

7.5 Pan Operations

If you have zoomed the chart you can pan (scroll) inside the chart using the pan operations, Left/ Up/Down/Right.

Toolbar buttons :

Chapter 8 - The Settings Menu

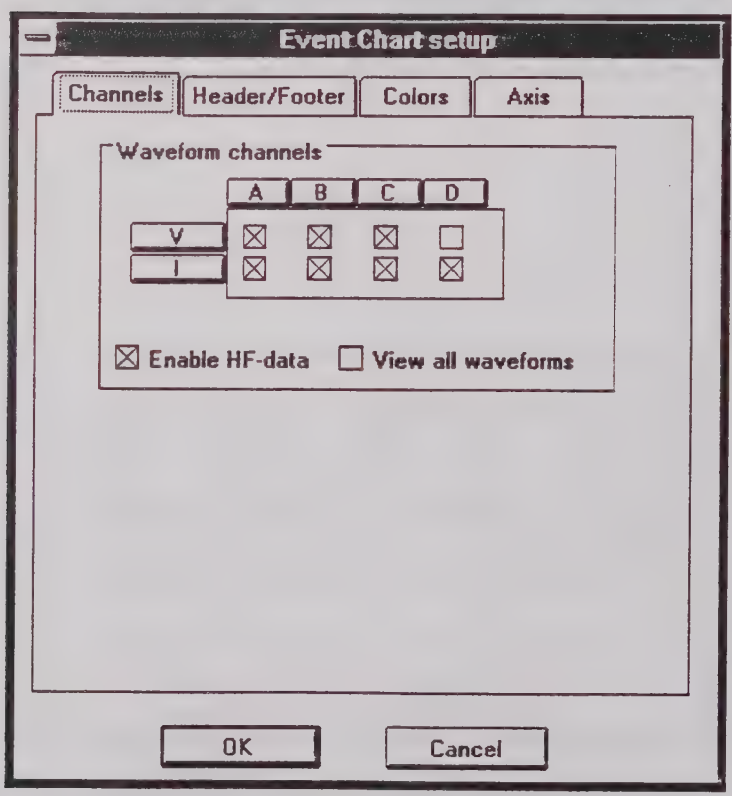
8.1 Event Chart

This option brings up a tabbed dialog box with the settings for the event (waveform) chart. By clicking on one of the tabs, related settings will be shown.

NOTE - The Event Chart will not display DRAN-LOGGER data because graphics are not recorded by that instrument.

Toolbar button :

8.1.1 Channels



This tab selects the channels to view in your waveform chart. Channels that are not available are grayed. Fast selection/de-selection can be issued by pressing the buttons surrounding the channel grid.

"Enable HF-data" enables plot of high frequency components that the instrument has captured during the data acquisition.

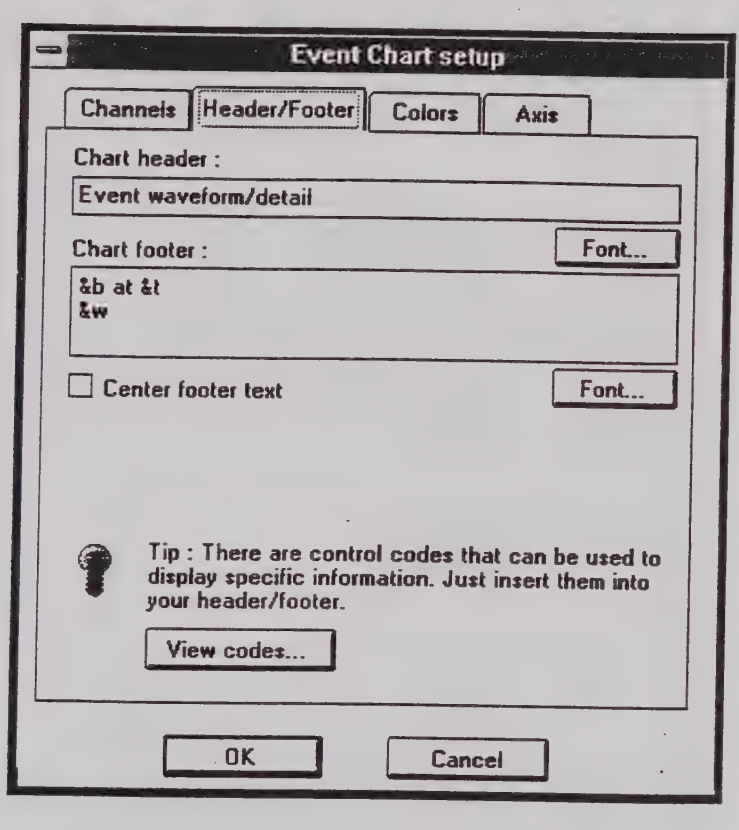
"View all waveforms" makes the waveform chart cover the entire time range of the data in the file.

NOTE - This function can also be toggled on/off, when clicking with the RIGHT mouse button at the chart.

Please refer to the chapter "FFT" for description about channel selections in FFT mode.

8.1.2 Header/Footer

This tab defines the chart header and footer.



The header/footer contains plain text but also can control codes so that file/data related information can be inserted into the text.

The header is a single line and the footer may contain many lines.

The header/footer control codes can be viewed by clicking the "View codes" button in the dialog.

&s = Site name from instrument database
&f = The actual document filename
&p = Actual page

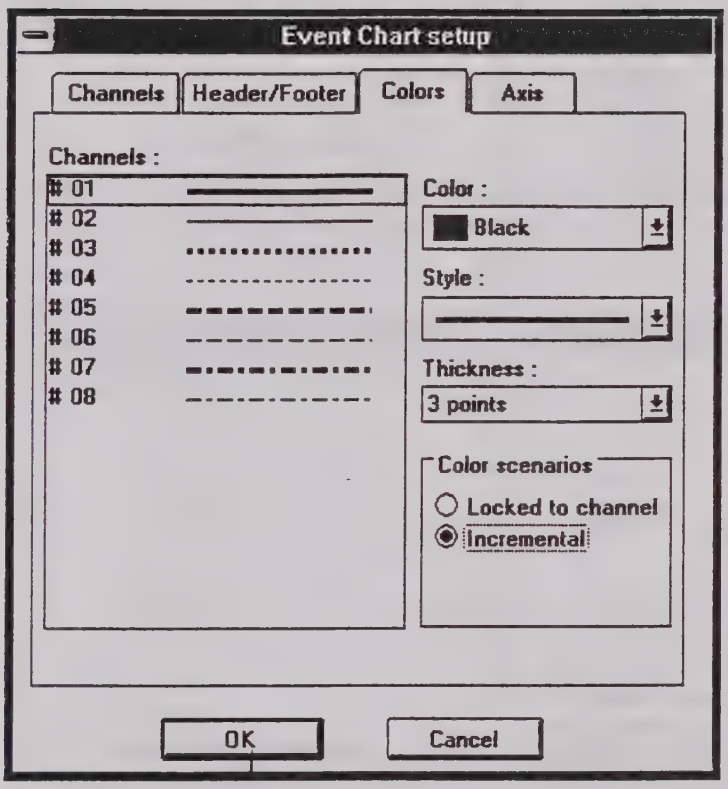
&m = Measurement date (start - end)
&t = Time and date for the current event.
&d = Current date (now)

&e = Show the event number. Event numbers used by DRAN-VIEW does not match intrument event numbers.
&b = Brief description of the current event. (Same as viewed in the event list in the toolbar)
&w = Worst/thresholds/limits information (apply only to footer since it may contain several lines)

&v = Very detailed information about event. Information according to &w is shown as well as other data.
If you use **&v**, do not use **&w** at the same time.

Note : These settings apply to both the FFT chart and Waveform chart.

8.1.3 Colors

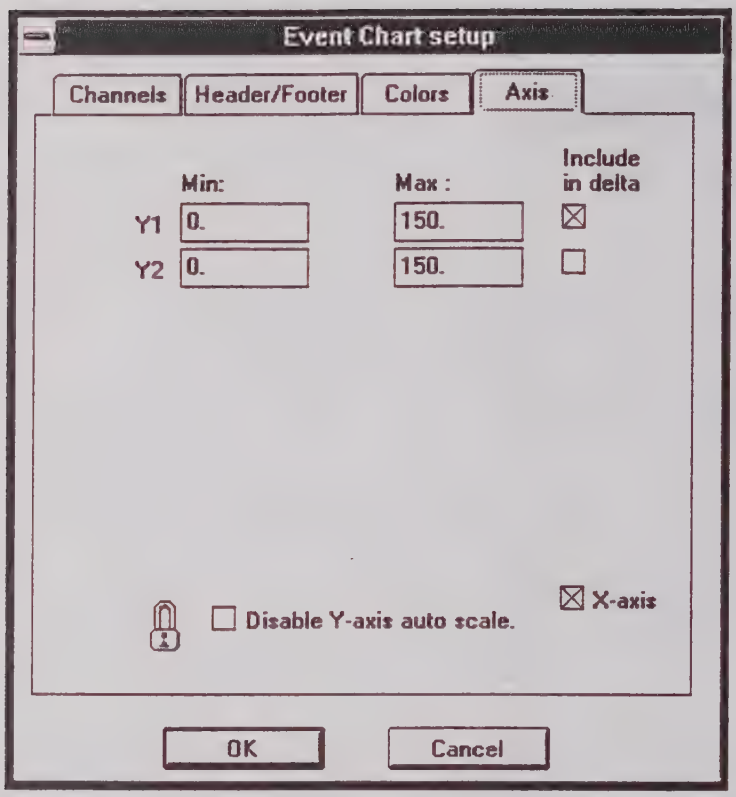


This tab defines the colors and style of the curves in the chart. There are two color scenarios that may be customized in any configuration.

- In the first scenario (Locked to channel) every channel ALWAYS has the color that is assigned to it.
- In the second scenario (Incremental) the chart uses colors as they are needed according to how many channels there are to be displayed. The default implementation uses a monochrome setup as scenario 2.

Note : Curves with thickness above 1 point are drawn more slowly.
These settings apply to both the FFT chart and Waveform chart.

8.1.4 Axis

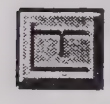


The charts autoscale their axes according to the present data. In this dialog however, you may lock/freeze the axis scaling and set it to whatever range you want, by activating the "Disable Y-axis auto scale" option.

"Include in delta" is a column of controls, used by the delta-measurement arrow markers. For additional information, please refer to the chapter about delta measurement.

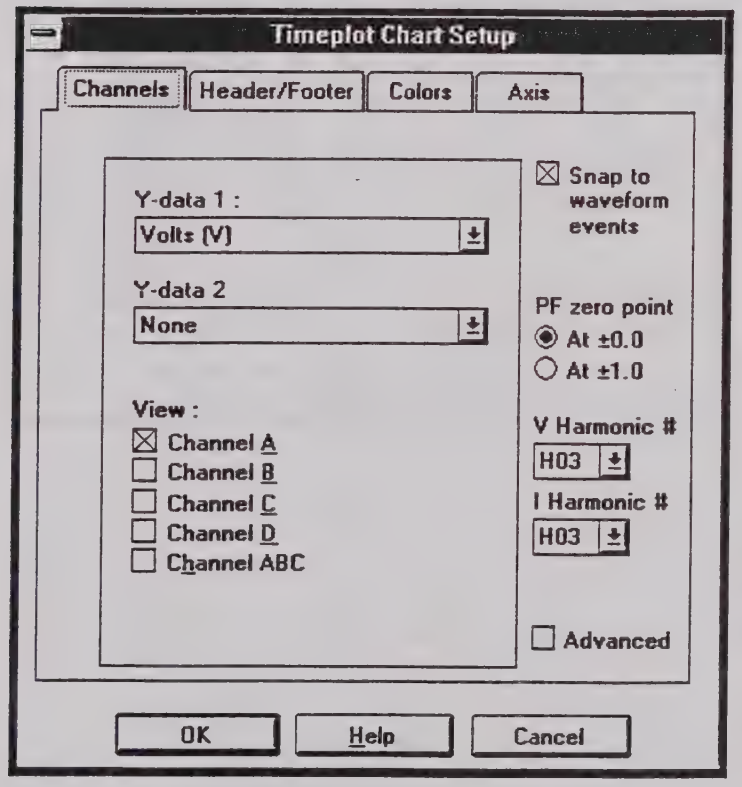
8.2 TIMEPLOT Chart

Toolbar button :



8.2.1 Channels

Note: The dialogs below shows the layout for PQPlus and PQLite databases. For DRAN-LOGGER databases the layout is simpler and also some options is not available in the DRAN-LOGGER configuration.



This dialog is used to select the channels you want to view in the chart. There are two combo-boxes to select the data source. The channels are selected below these combo boxes.

"V harmonic #" selects the harmonic voltage component you may want to view. This option is used in conjunction with "Vharm" data selection.

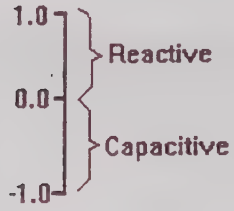
"I harmonic #" selects the harmonic amps component you may want to view. This option is used in conjunction with "Iharm" data selection.

Note: There are only harmonic data available for the harmonic number that the instrument has been programmed for.

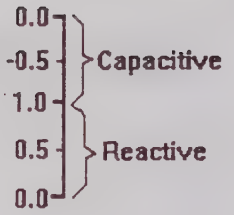
"Snap to waveform event" If this option is checked, then clicking in the timeplot chart will bring you to the nearest WAVEFORM event. If this option is NOT checked then it will search for the nearest event of ANY type.

"PF zero point" is a special option for the Power Factor curves. PF-values are always between +1.0 to -1.0. With a normal axis, some curves may be difficult to read when the data switches from negative to positive very often. That's why we implemented an axis with its origin at +/-1.0.

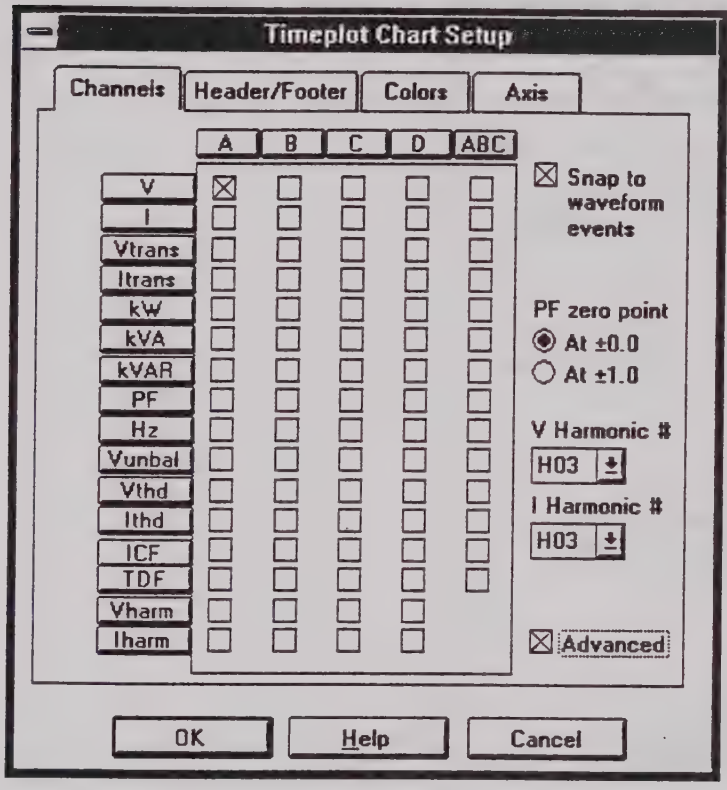
Normal axis Origin at +/-0.0



Special Axis, origin at +/-1.0

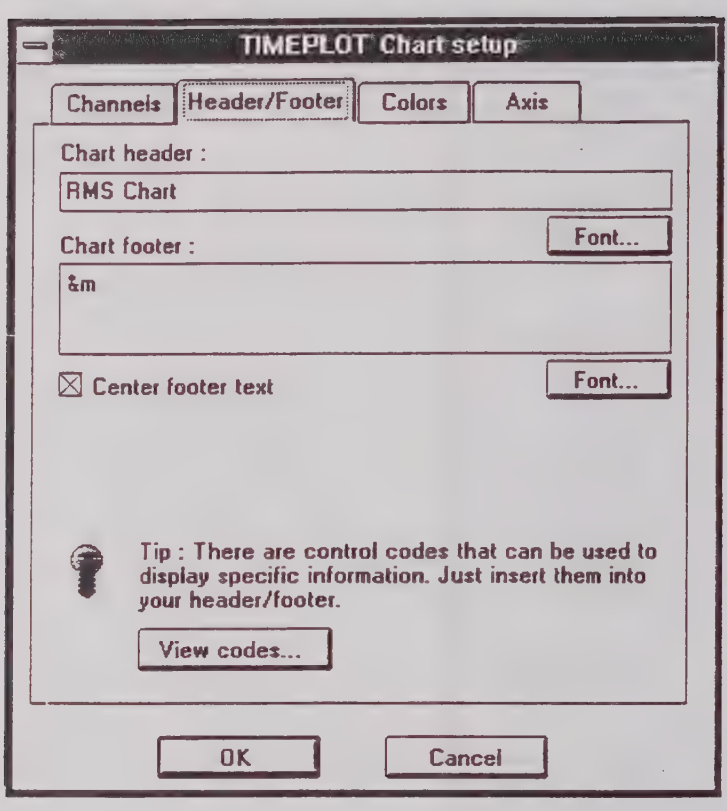


If the "Advanced" checkbox is checked, then the dialog changes to a more flexible (and complicated) layout. In the DRAN-LOGGER layout some options are not available. Also the names of the parameters are different.



In this case any individual unit and channel may be selected.

8.2.2 Header/Footer



The header/footer contains plain text but also can contain control codes so that file/data related information can be inserted into the text.

The header is a single line and the footer may contain many lines.

The header/footer control codes can be viewed by clicking the "View codes" button in the dialog.

&s = Site name from instrument database
&f = The actual document filename
&p = Actual page

&m = Measurement date (start - end)
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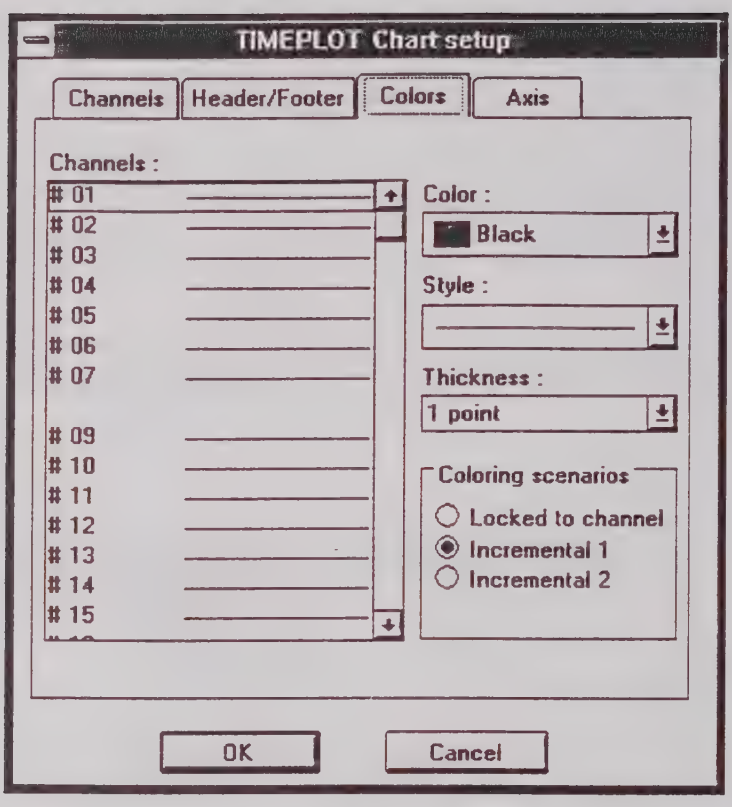
&e = Show the event number. Event numbers used by DRAN-VIEW does not match intrument event numbers.
&b = Brief description of the current event. (Same as viewed in the event list in the toolbar)

&w = Worst/thresholds/limits information (apply only to footer since it may contain several lines)

&v = Very detailed information about event. Information according to &w is shown, as well as other data.

If you use **&v,** do not use **&w** at the same time.

8.2.3 Colors

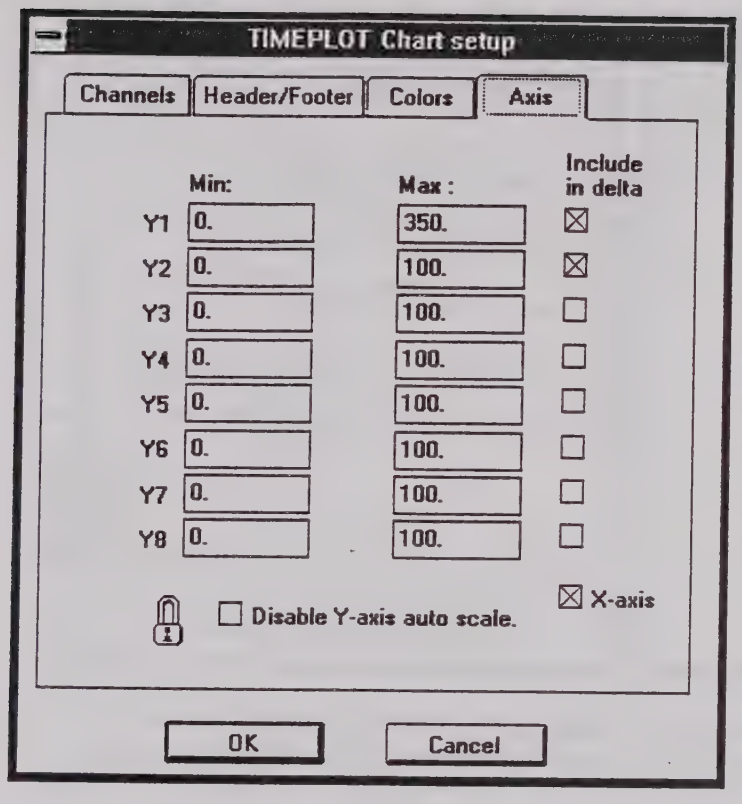


This tab defines the colors and style of the curves in the chart. There are three color scenarios that may be customized in any configuration.

- In the first scenario (Locked to channel) every channel ALWAYS has the color that is assigned to it.
- In the second scenario (Incremental) the chart uses colors as they are needed according to how many channels there are to be displayed.
- In the third scenario (also incremental) the chart uses colors as they are needed according to how many channels there are to be displayed. The default implementation uses a monochrome setup as scenario 3.

Notes : Curves with thickness above 1 point are drawn more slowly.

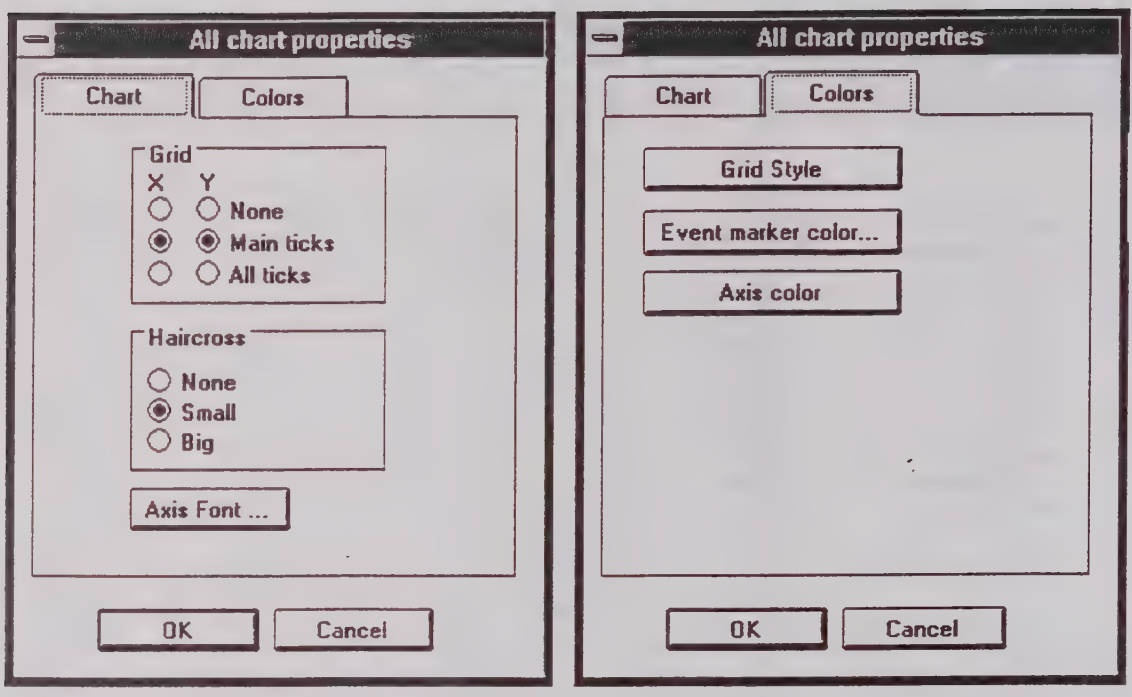
8.2.4 Axis



The charts autoscale their axes according to the present data. In this dialog however, you may lock/freeze the axis scaling and set it to whatever range you want, by activating the "Disable Y-axis auto scale" option.

"Include in delta" is a column of controls, used by the delta-measurement arrow markers. Please refer to the chapter about delta measurement.

8.3 All charts

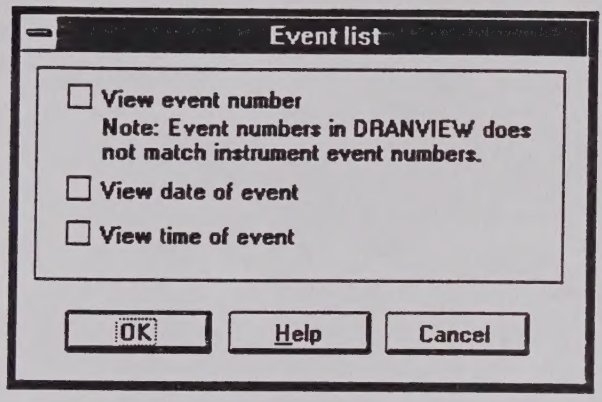


This dialog contains settings that affect all charts. In the first tab you can set the resolution of the chart grid, the size of the haircross, and the type of font to be used on axis scaling.

The other tab contains settings for the grid style (color, linetype, and thickness), the color of the event marker rectangle and finally the color of axis.

Toolbar button :

8.4 Event list



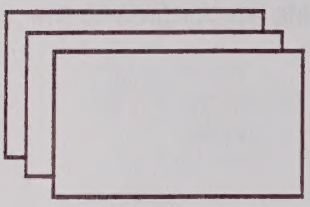
This dialog sets the format for the text in the event list.
You can apply date and/or time to the event description.

Toolbar button :

Chapter 9 - The Window Menu

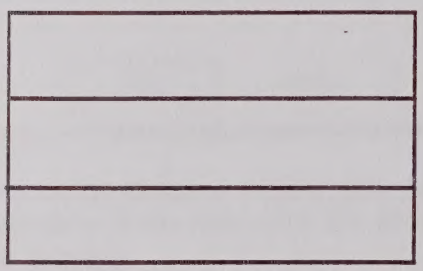
9.1 Cascade

This option "cascades" the windows as shown here.



9.2 Tile

This option "stacks" the windows as shown here.



9.3 Duplicate

This option creates a new additional window to the opened document. This additional window may show a FFT chart while the original window shows the waveform chart.

9.4 Data List

To show the data that is presented in the chart in a numeric form, we use this "Data list" function. When selected, it will bring up a new window with all the chart's data in a table list.

Note : Consider the table list a snapshot of the chart, that was viewed when the table list was activated. The table list will NOT update when switching to another event or modifing the chart.

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